19. A process for preparing the protein having the amino acid sequence of SEQ ID NO: 2 by culturing the microorganism of claim 18.

REMARKS

The Examiner's Office Action dated January 29, 2003 has been carefully reviewed. In view of the above amendments made to the claims and for the reasons provided below, early allowance of pending claims 1, 4-8, 10, 11, 13-15 and newly added claims 17-19 is respectfully requested.

I. The Rejections of claims under 35 U.S.C. § 102 and § 103

The Examiner has rejected claims 1, 8, 10 and 15) as being anticipated by 35 U.S.C. 102(b, and rejected claims 2, 4, 5 and 11 under 35 U.S.C. 103(a) as being unpatentable over New England BioLabs Catalog, pages 106-108, 1995.

In this connection, the Examiner's kind attention is directed to the fact that claims 1, 2, 4, 8 10 and 15 have been amended by deleting "fragment of the protooncogene" and adding new claims 17-19 have been added, thereby excluding the ApaI disclosed in the prior art reference cited by the Examiner and other fragments of the protooncogene having similar sequences.

i) Critical Feature of the Present Invention

By way of review, the present invention defined in the pending claims, as amended above, is directed to a human cervical cancer 1 protooncogene having the base sequence corresponding to base Nos. 9 to 1088 or the full base sequence of SEQ ID NO: 1; a vector comprising said protogocogene, a microorganism transformed

with said vector, a process for preparing the protein having the amino acid sequence of SEQ ID NO: 2, a kit for diagnosis of cancer comprising said protooncogene and an anti-sense gene having the base sequence of SEQ ID NO: 3.

ii) Summary of the Cited References

In contrast, New England BioLabs Catalog discloses phosphorylated and non-phosphorylated oligonucleotide linkers including linker for ApaI having the base sequence of "GGGGCCCC".

iii) Comparison of the Present Invention with New England BioLabs Catalog

It is respectfully submitted that the linker disclosed in New England BioLabs Catalog, especially ApaI pointed out by the Examiner as a fragment corresponding to base Nos. 120 to 127 of SEQ ID NO: 1 of the present invention (GGGGCCCC), differs from a human cervical cancer 1 protooncogene having the base sequence corresponding to base Nos. 9 to 1088 or the full base sequence of SEQ ID NO: 1.

Further, New England BioLabs Catalog does not teach, suggest or imply the subject of the present invention, that is, a vector comprising a human cervical cancer 1 protooncogene having the base sequence corresponding to base Nos. 9 to 1088 or the full base sequence of SEQ ID NO: 1; a microorganism transformed with the said vector, a kit for diagnosis of cancer comprising said protooncogene and an anti-sense gene having the base sequence of SEQ ID NO: 3 which is complementary to the sequence of said protooncogene.

Accordingly, in view of the above amendment to the claims, and for the reasons provided above, it is believed that New England BioLabs Catalog fails to teach or anticipate the subject matter of the present invention and cannot possibly render obvious the present invention, and, therefore, the Examiner's withdrawal of 102 and 103 rejections are respectively requested.

II. The Rejections of Claims Under 35 U.S.C. § 112, First and Second Paragraphs

i) Deposit of Microorganism

In this regard, submitted herewith is a Declaration for Deposit of Microorganism duly executed by Jin-Woo Kim, the applicant, warranting that: the deposit of *E. coli* JM109/HCCR-1(Accession NO: KCTC 0667BP) has been made under the terms of the Budapest Treaty; the deposit will cover the entire enforceable life term of the patent; and the deposited microorganism will be irrevocably and without restriction or condition releasable to the public upon the issuance of a patent out of the present application.

ii) Rejection of Claims 7, 10, 13 and 15

In this regard, the applicant has amended claims 7 and 13 not to be dependent on claim 3 by way of the present amendment as set forth above. Further, claims 10 and 15 have been amended by deleting "fragment of the protooncogene".

iii) Rejection of Claims 12 and 16

Claims 12 and 16 have been cancelled without prejudice thereto.

Accordingly, by virtue of the submission of the applicant's Declaration for the Deposit of Microorganism submitted herewith and the above amendments to the claims, it is respectfully submitted that the reasons for the 112 rejections have been overcome.

III. Conclusion

In view of the foregoing amendments and discussions, it is respectfully submitted that the present invention as defined in the pending claims 1, 4-8, 10, 11, 13 to 15 and 17 to 19 is in full compliance with all the statutory requirements, and, therefore, it is earnestly requested that the Examiner's objection and rejections be withdrawn and the pending claims be allowed in their present form.

Respectfully submitted
for applicant

Dated: April 25, 2003

By: _____
Richard B. Klar
Registration No. 31,385

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CERTIFICATE OF MAILING

I hereby certify that this AMENDMENT w/Declaration For Deposit Of Microorganism is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Box: Amendment, Commissioner for Patents, Washington, D.C. 20231 on April 25, 2003.

_____
Audrey de Souza

Version of Claims with markings to show changes made

A "marked up" version of claim 1 follows:

1. (Amended) A human cervical cancer 1 protooncogene having the base sequence of SEQ ID NO:1 [or a fragment thereof].

A "marked up" version of claim 2 follows:

2. (Amended) [The fragment of the protooncogene of claim 1] A human cervical cancer 1 protooncogene having a base sequence corresponding to base Nos. 9 to 1088 of SEQ ID NO:1.

A "marked up" version of claim 4 follows:

4. (Amended) A vector comprising the protooncogene [or fragment] of claim 1.

A "marked up" version of claim 7 follows:

7. (Twice Amended) A process for preparing the protein [or fragment of claim 3 comprising] having the amino acid sequence of SEQ ID NO: 2 by culturing the microorganism of claim 5.

A "marked up" version of claim 8 follows:

8. (Twice Amended) A kit for diagnosis of cancer which comprises the protooncogene [or fragment] of claim 1.

A "marked up" version of claim 10 follows:

10. (Twice Amended) An anti-sense gene having a base sequence which is complementary to the sequence of the [full or partial] mRNA transcribed from the protooncogene [or fragment] of claim 1 and being capable of binding the mRNA to inhibit the expression of said protooncogene [or fragment].

A "marked up" version of claim 11 follows:

13. (Amended) A process for preparing the protein [or fragment of claim 3] having the amino acid sequence of SEQ ID NO: 2 by culturing the microorganism of claim 6.

A "marked up" version of claim 14 follows:

14. (Amended) A kit for diagnosis of cancer which comprises the protooncogene [or fragment] of claim 2.

A "marked up" version of claim 15 follows:

15. (Amended) An anti-sense gene having a base sequence which is complementary to the sequence of the [full or partial] mRNA transcribed from the protooncogene [or fragment] of claim 2 and being capable of binding the mRNA to inhibit the expression of said protooncogene [or fragment].